

I Claim:

1. A prosthesis to replace all or a portion of a cephalad portion of a natural facet joint on a vertebral body comprising
 - 5 a prosthesis body accommodating fixation to the vertebral body at or near a pedicle and without support by a lamina, and
 - an artificial facet joint structure carried by the prosthesis body adapted and configured to replace all or a portion of a cephalad portion of a natural facet joint.
- 15 2. A prosthesis according to claim 1 wherein the artificial facet joint structure is adapted and configured to replace a natural articular process of a cephalad portion of a natural facet joint.
3. A prosthesis according to claim 1 wherein the artificial facet joint structure is adapted and configured to replace a natural articular process of a cephalad portion of a natural facet joint after removal of at least some of a lamina from the vertebral body.
- 20 4. A prosthesis according to claim 1 wherein the artificial facet joint structure is adapted and configured to replace a natural articular process of a cephalad portion of a natural facet joint after removal of at least part of an accessory process from the vertebral body
- 25 5. A prosthesis according to claim 1 wherein the artificial facet joint structure is adapted and configured to replace a natural articular process of a cephalad portion of a natural facet joint after removal of at least part of a transverse process from the vertebral body.
- 30 6. A prosthesis according to claim 1 wherein the artificial facet joint structure
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is adapted and configured to replace a natural articular process of a cephalad portion of a natural facet joint after removal of at least part of a pedicle from the vertebral body.

5 7. A prosthesis according to claim 1
 wherein the artificial facet joint structure
is adapted and configured to replace a natural articular process of a cephalad portion of a natural facet joint after removal of at least some of the natural articular
10 process from the vertebral body.

 8. A prosthesis according to claim 1
 wherein the artificial facet joint structure
is adapted and configured to replace a natural articular process of a cephalad portion of a natural facet joint
15 after removal of at least some of the natural articular process and of at least some of a lamina from the vertebral body.

 9. A prosthesis according to claim 1
 wherein the artificial facet joint structure
20 is adapted and configured to replace a natural articular process of a cephalad portion of a natural facet joint after removal of at least some of the natural articular process and of at least some of an accessory process from the vertebral body.

25 10. A prosthesis according to claim 1
 wherein the artificial facet joint structure
is adapted and configured to replace a natural articular process of a cephalad portion of a natural facet joint after removal of at least some of the natural articular
30 process and of at least part of a transverse process from the vertebral body.

 11. A prosthesis according to claim 1
 wherein the artificial facet joint structure
is adapted and configured to replace a natural articular
35 process of a cephalad portion of a natural facet joint

after removal of at least some of the natural articular process and of at least part of a pedicle from the vertebral body.

12. A prosthesis according to claim 1
5 wherein the artificial facet joint structure is adapted and configured to replace a natural articular process of a cephalad portion of a natural facet joint, and

wherein the prosthesis body is adapted and
10 configured to replace at least some of a lamina of the vertebral body.

13. A prosthesis according to claim 1
wherein the artificial facet joint structure is adapted and configured to replace a natural articular
15 process of a cephalad portion of a natural facet joint, and

wherein the prosthesis body is adapted and
configured to replace at least some of a mamillary
process of the vertebral body.

14. A prosthesis according to claim 1
20 wherein the prosthesis body is adapted and configured to replace at least some of a lamina of the vertebral body.

15. A prosthesis according to claim 1
25 wherein the prosthesis body is adapted and configured to replace at least some of a mamillary process of the vertebral body.

16. A prosthesis according to claim 1
wherein the artificial facet joint structure
30 is adapted and configured to articulate with a caudal portion of a facet joint of an adjoining vertebral body.

17. A prosthesis according to claim 1
wherein the artificial facet joint structure
is made of at least one selected prosthetic material.

35 18. A prosthesis according to claim 17

wherein the selected prosthetic material includes polyethylene, rubber, tantalum, titanium, chrome cobalt, surgical steel, bony in-growth material, ceramic, artificial bone, or a combination thereof.

5 19. A method of replacing, on a vertebral body, all or a portion of a cephalad portion of a natural facet joint using the prosthesis defined in claim 1 to provide improved support for the spinal column, the method comprising the steps of

10 (i) removing all or a portion of a natural articular process of the cephalad portion of the natural facet joint from the vertebral body, and

 (ii) fixing the prosthesis as defined in claim 1 to the vertebral body to replace the removed portion of
15 the natural articular process with the artificial facet joint structure.

 20. A method according to claim 19 further including a step of removing at least part of an accessory process from the vertebral body.

20 21. A method according to claim 19 further including a step of removing at least part of a transverse process from the vertebral body.

 22. A method according to claim 19 further including a step of removing at least
25 part of a pedicle from the vertebral body.